

Fig. 1

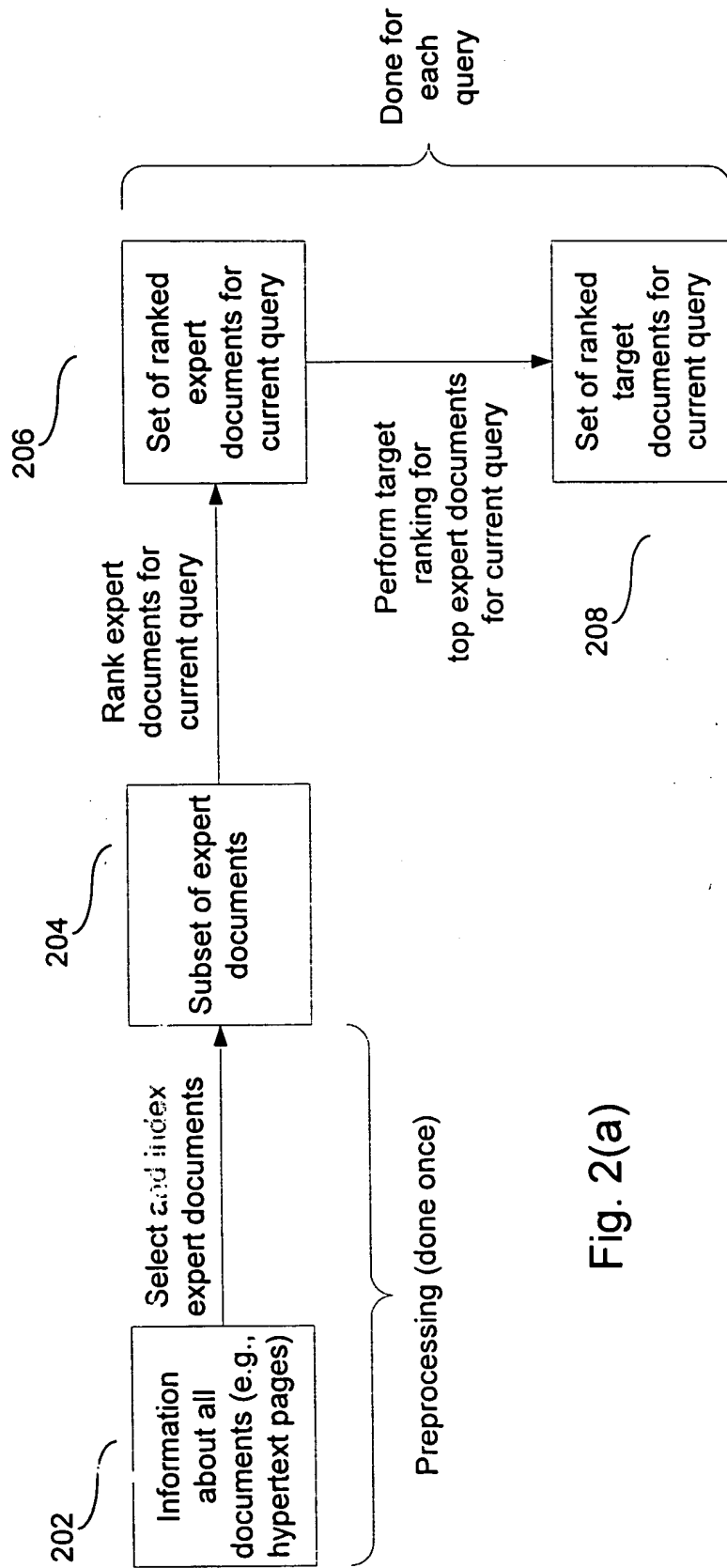
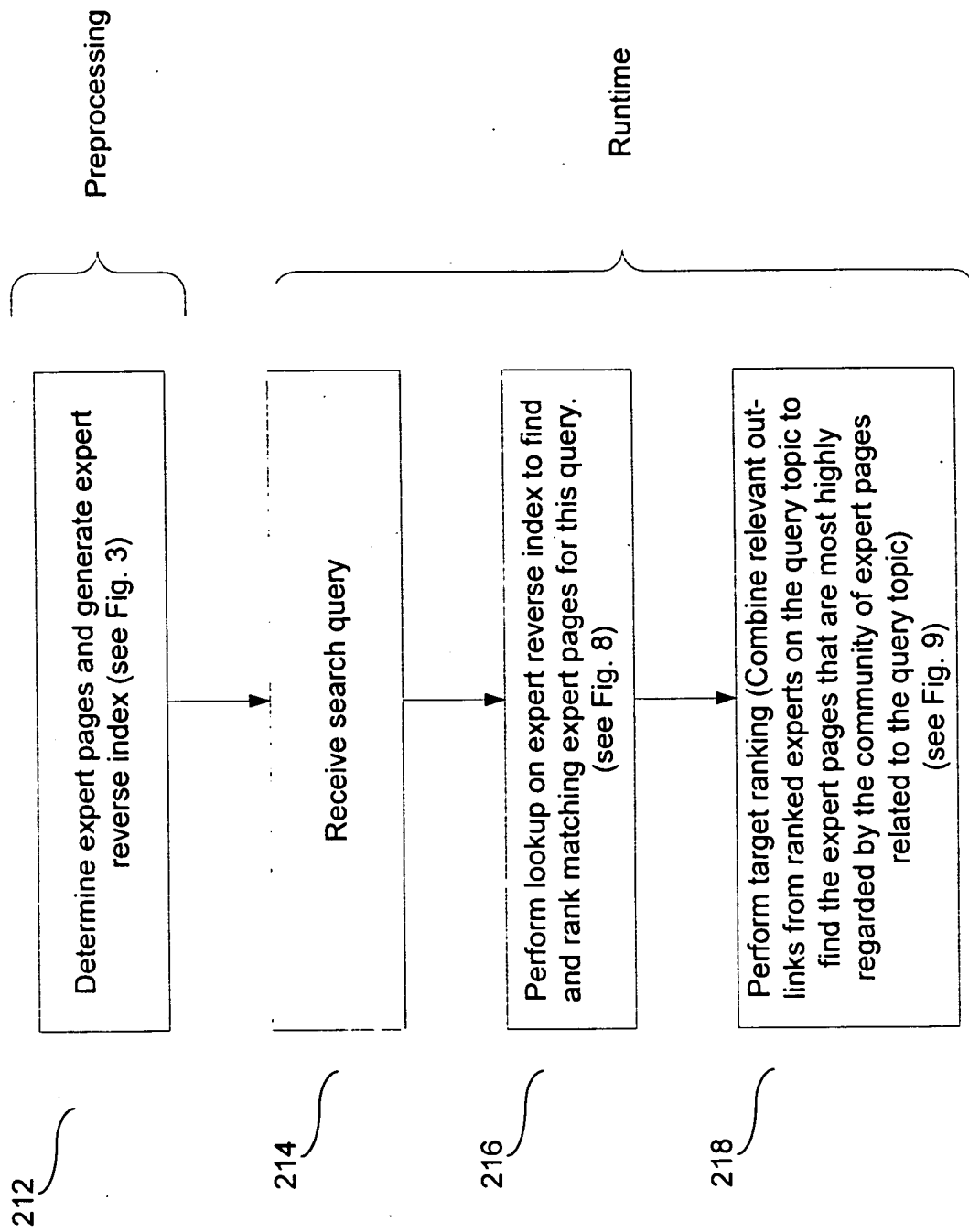
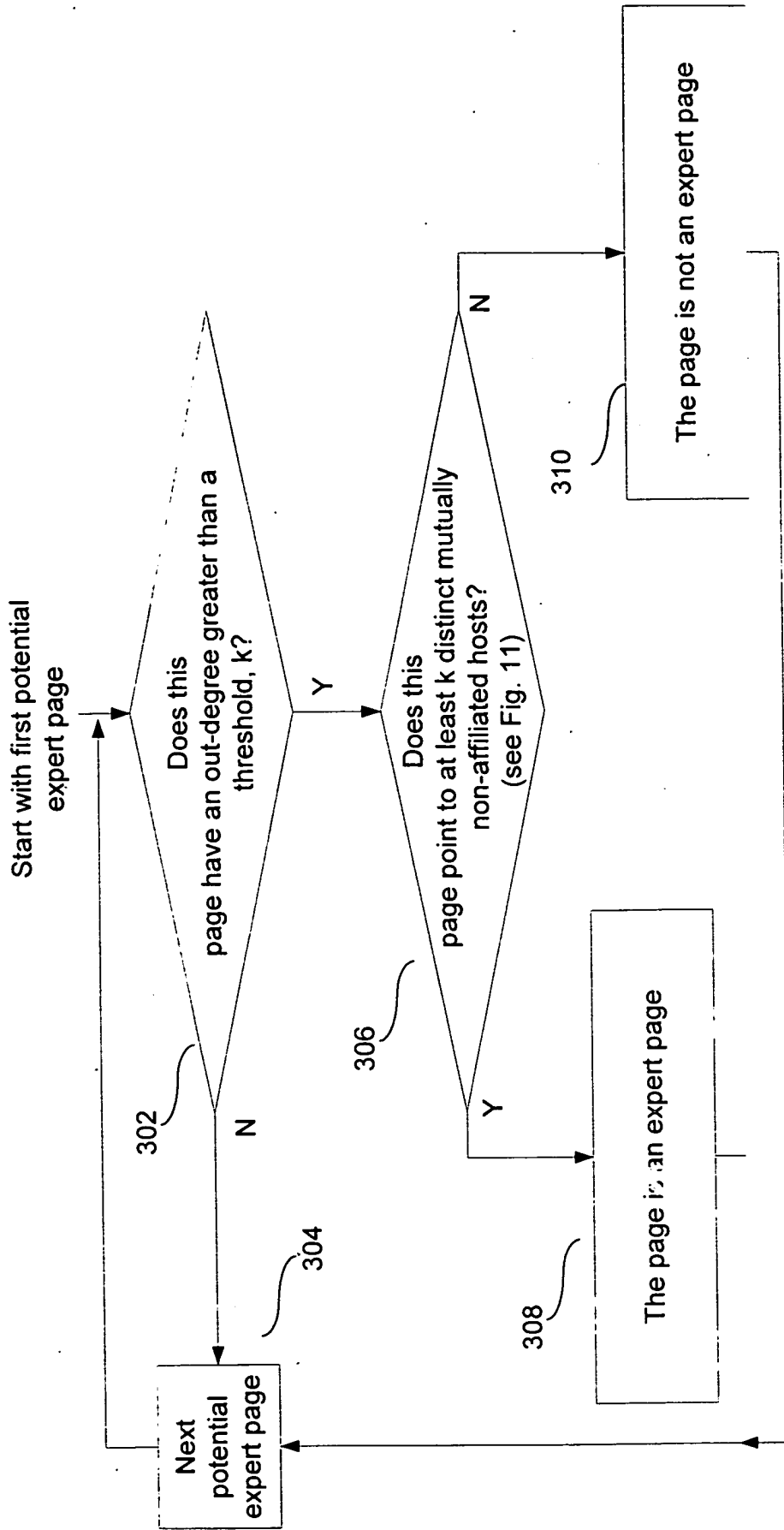


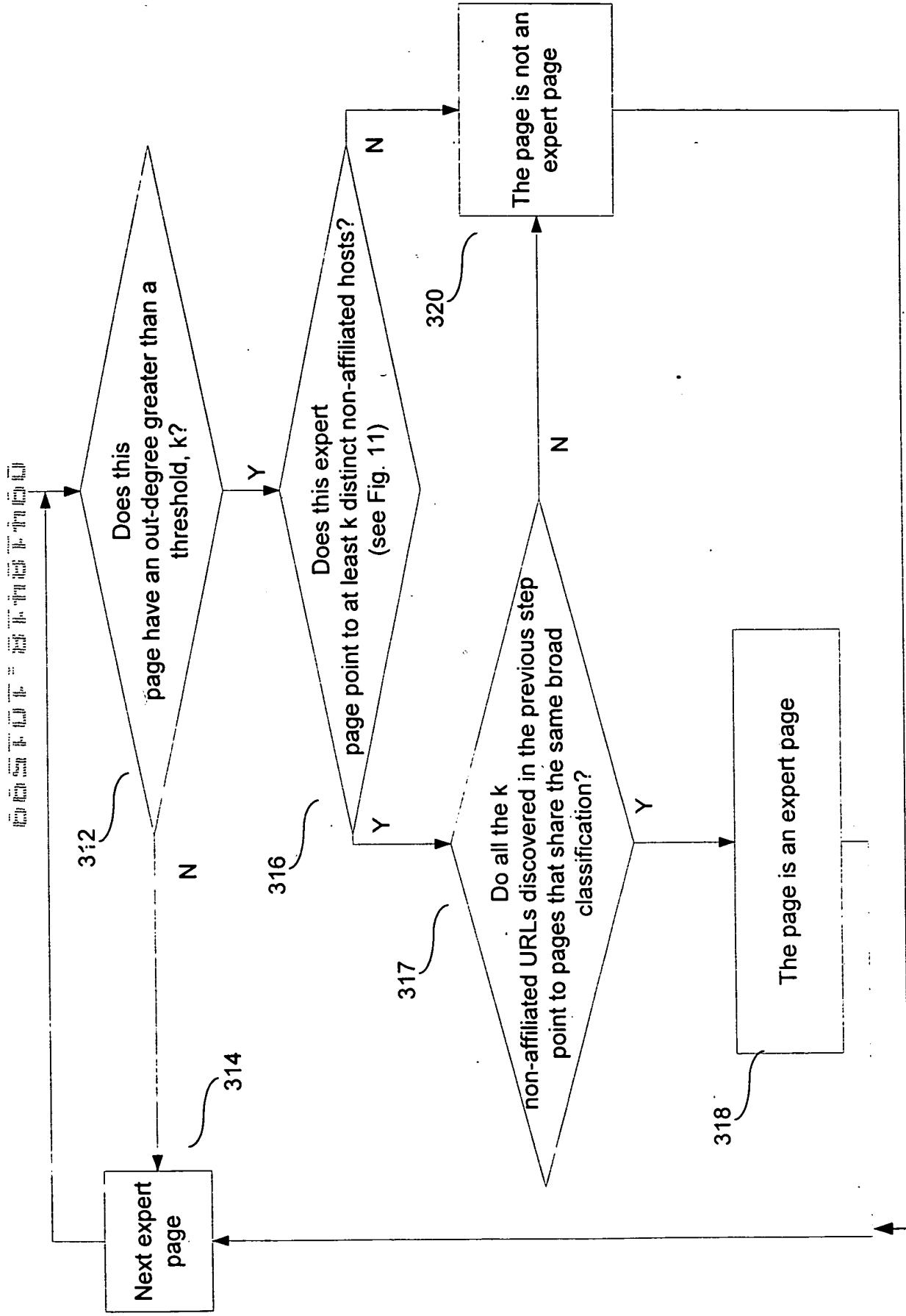
Fig. 2(a)



Responding to a Search Query
Fig. 2(b)

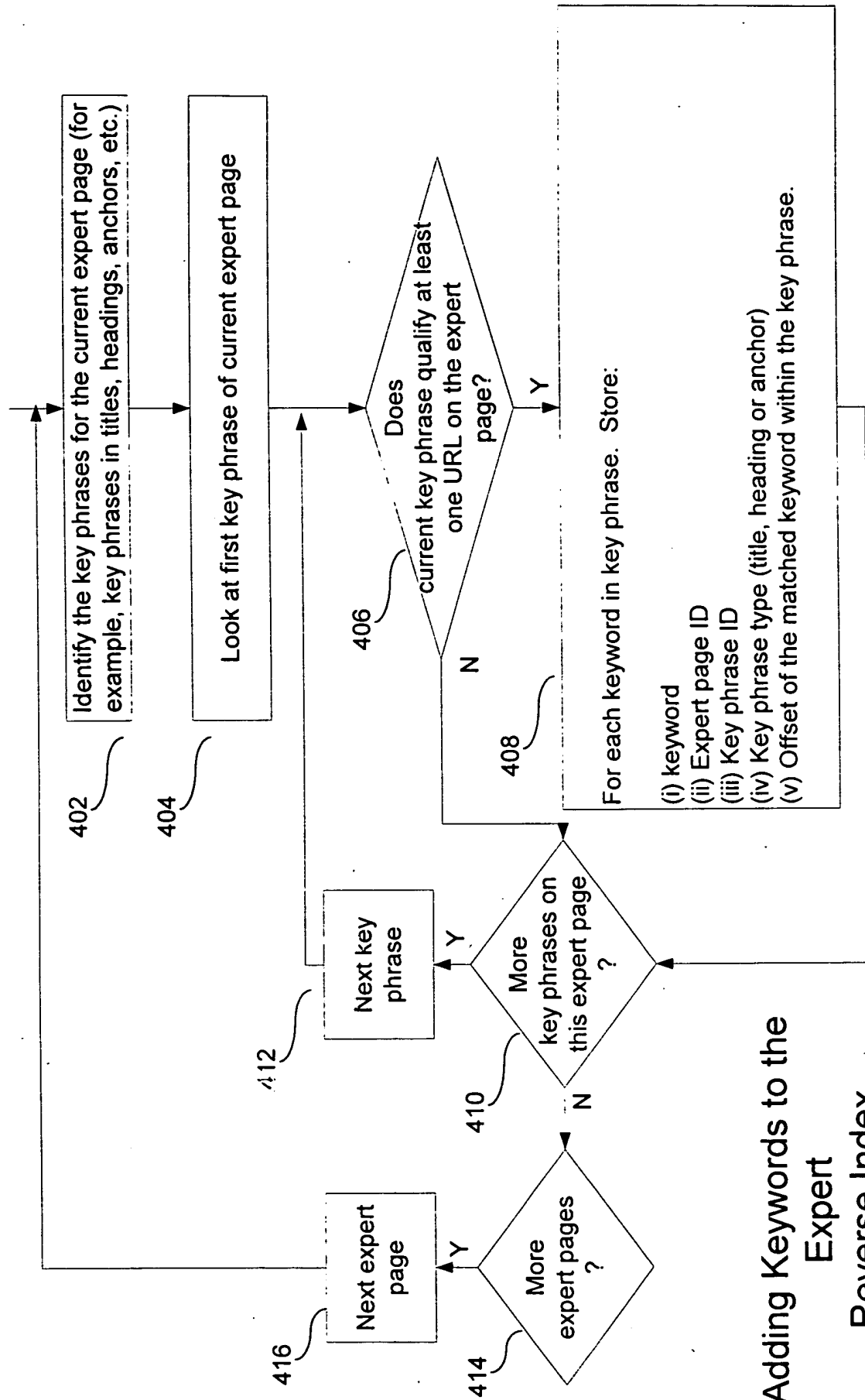


Determining Expert Pages
Fig. 3(a)



Determining Expert Pages
Fig. 3(b)

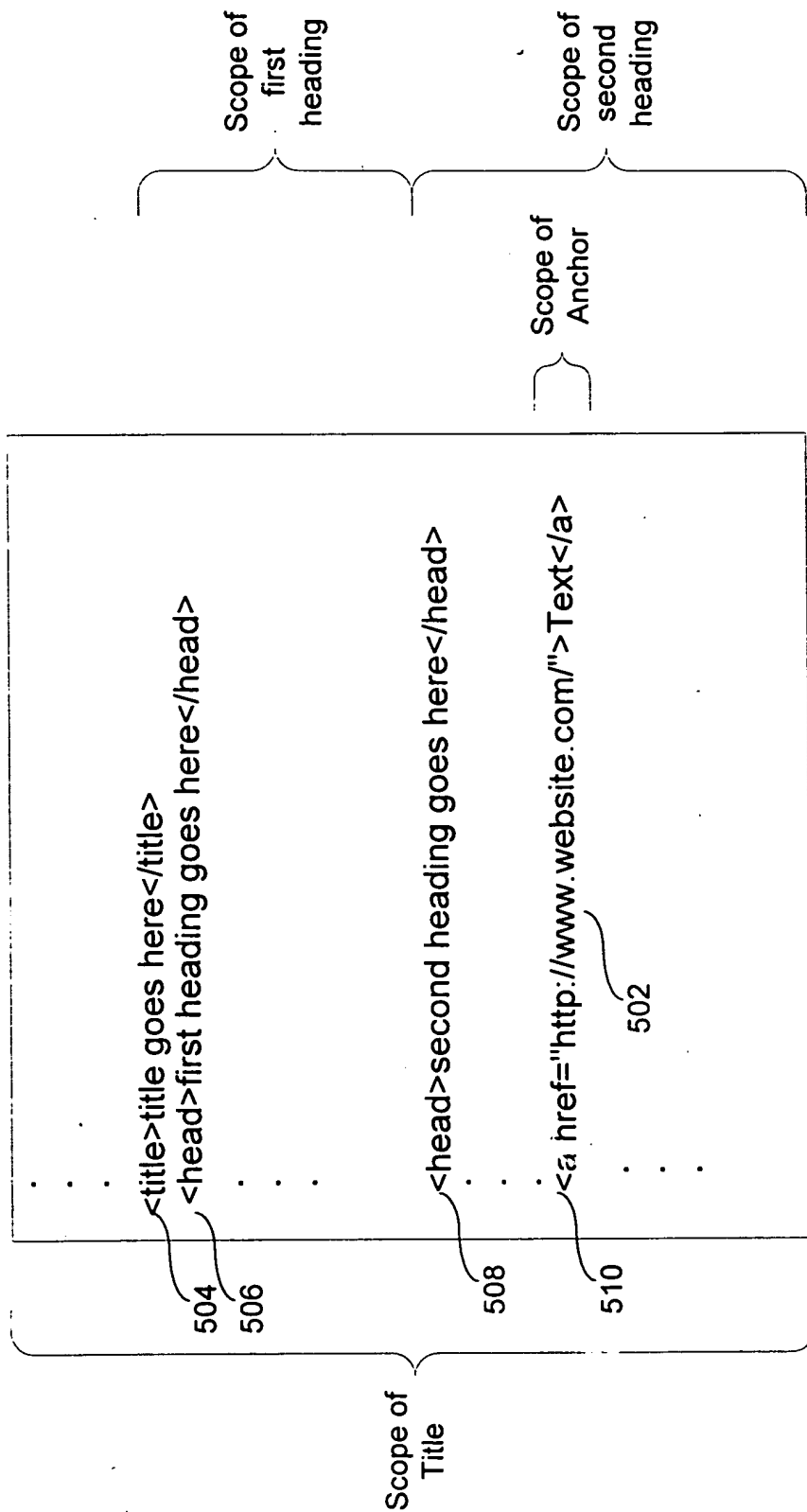
Start with first expert page



Adding Keywords to the
Expert
Reverse Index

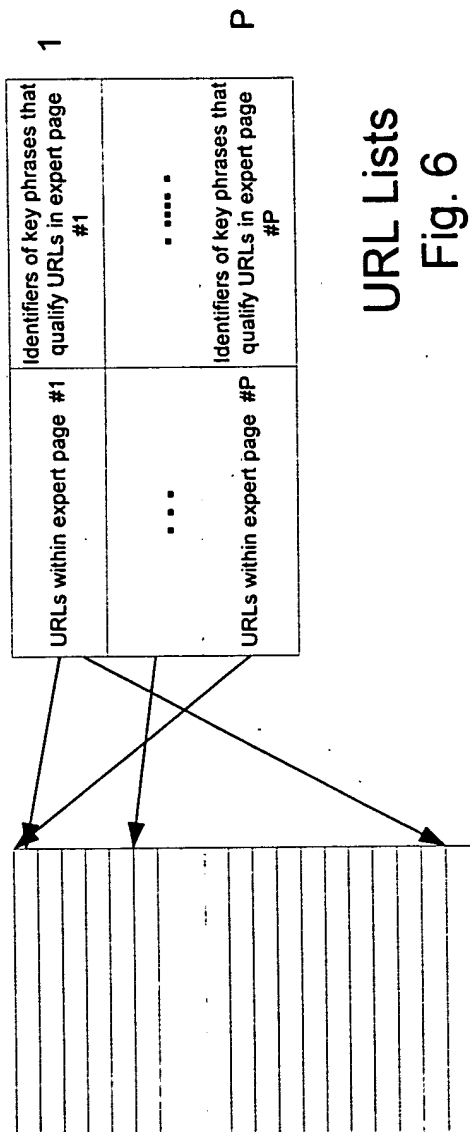
Fig. 4

An expert page



Scope of Key Phrases
(URLs in scope of a key phrase are "qualified" by the key phrase)
Fig. 5

Global URL list



URL Lists
Fig. 6

| keyword | Expert page ID | Key phrase ID | Key phrase type | Offset of keyword within key phrase |
|---------|----------------|---------------|-----------------|-------------------------------------|
| 1 | | | | |
| ... | ... | ... | ... | ... |
| M | | | | |

Example Expert Reverse Index
Fig. 7

Start with first key phrase of first expert page

802

804

For current key phrase: determine level score of key phrase in accordance with the type of key phrase (title, header, anchor, etc.)

For current key phrase and current expert page: determine fullness factor for <key phrase, query> as follows:

If $m \leq 2$, FullnessFactor(key phrase, query) = 1

If $m > 2$, FullnessFactor(key phrase, query) = $1 + (2-m)/plen$

where m is the number of terms in the key phrase that are not in the query (i.e., surplus terms in key phrase) and plen is the length of the key phrase

806

If key phrase has all query terms: Add (LevelScore (key phrase) * FullnessFactor(key phrase, query)) to running total S0 for expert page

If key phrase has all but 1 query term: Add (LevelScore (key phrase) * FullnessFactor(key phrase, query)) to running total S1 for expert page

If key phrase has all but 2 query terms: Add (LevelScore (key phrase) * FullnessFactor(key phrase, query)) to running total S2 for expert page

So, S1, S2 make up an ExpertScore(E) for this expert.

810

Ranking Expert Pages for a Current Query

Fig. 8

Rank experts according to their S0, S1, S2 scores

More key phrases in expert page?

More expert pages to rank?

Next key phrase on expert page

Next expert page; first key phrase on expert page; Clear S0, S1, S2 for expert page

808

812

816

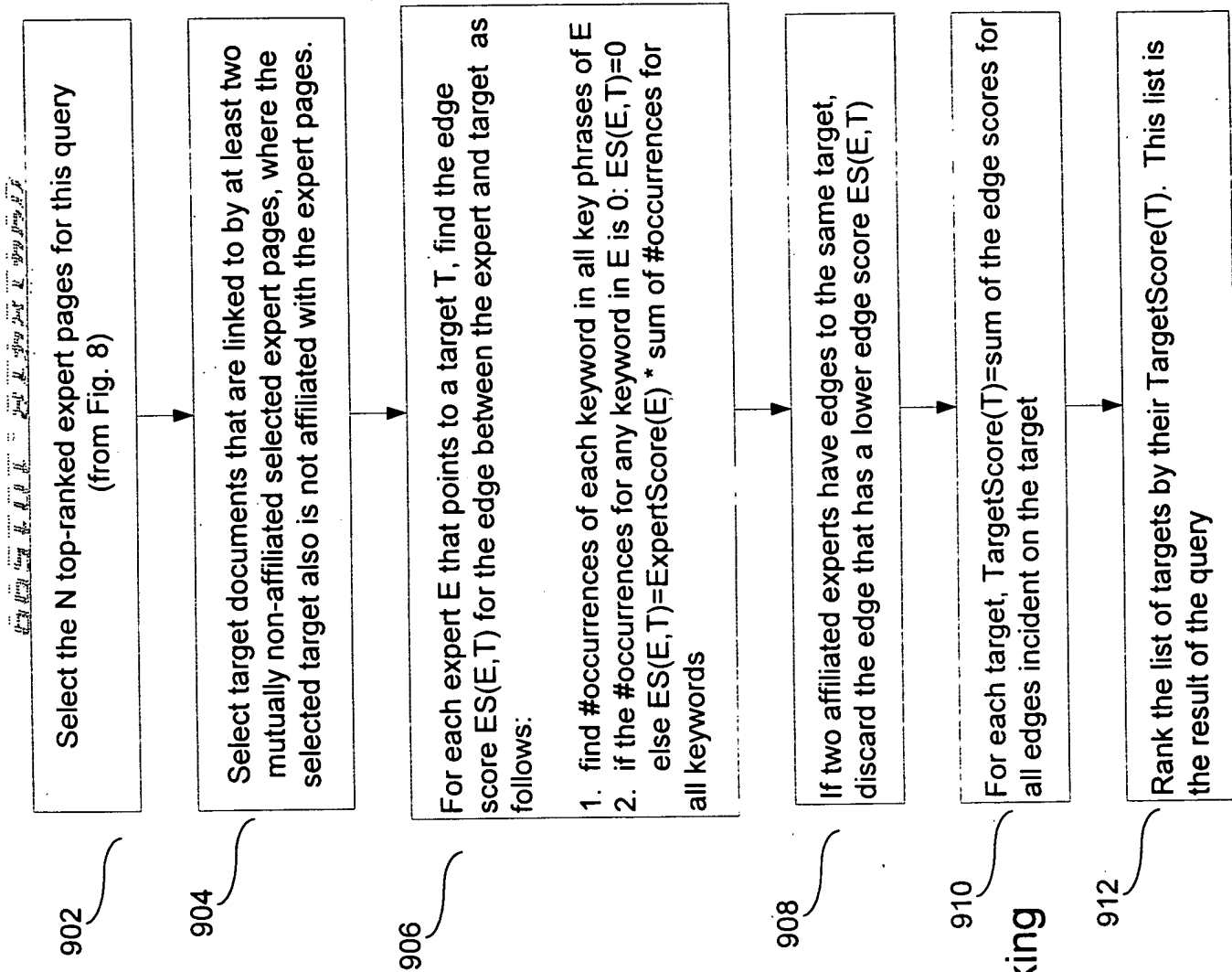
814

Y

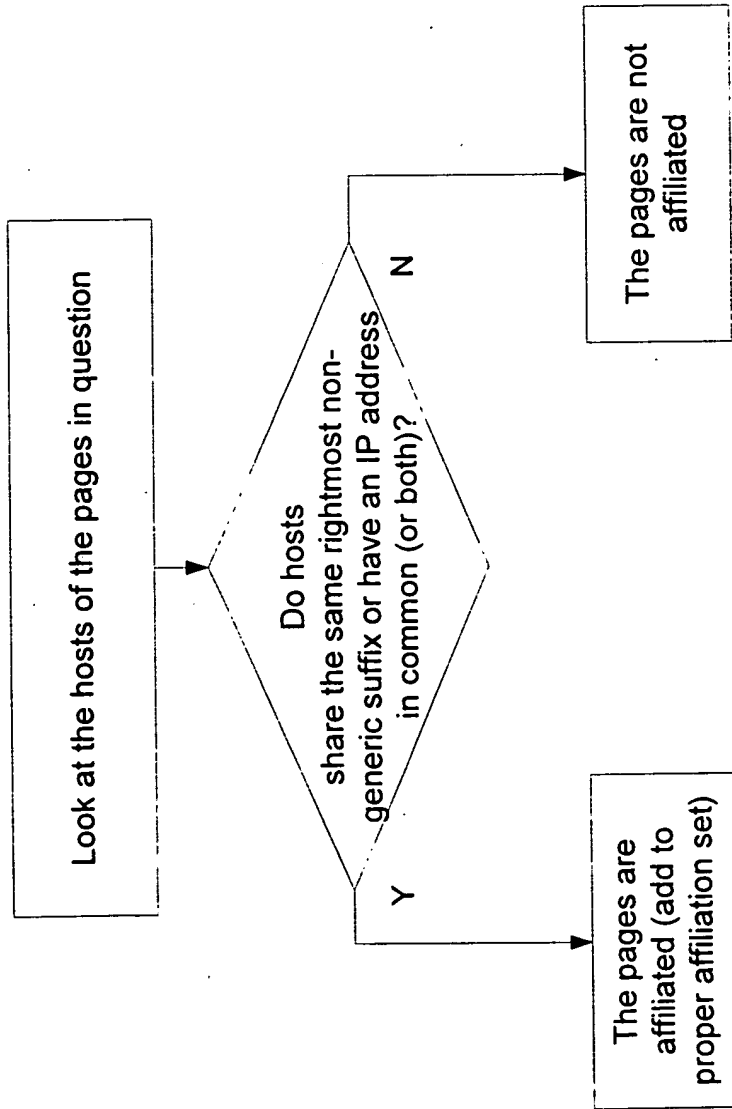
N

Y

N



Target Ranking
Fig. 9



Determining if Two Pages are Affiliated
Fig. 10

